

HEE UNITED SHAYES OF AMERICA

Monsanto Technology IIG

MICCUS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A TAKE BERBOF, AND THE VARIOUS REQUIREMENTS: OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLETO WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROPECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE IXAMINATION MADE, THE SAID APPLICANT(S) IS (ARF) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIATY PROTECTION UNDER THE ${
m LAW}$.

YOW THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID AUTICANT'S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY TAILS FROM THE DATE OF THIS GRAME, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC **SECURISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE** OFFERING IT FOR SALE, OR REPRODUCING IT, OR UNC IT OF EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE URPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT **SCIENT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)**

CORN, FIELD

ີ*່1090372'*

In Testimone Thereof, I have hereunto set my hand and caused the seal of the Hant Barixin Frotestion Office to be affixed at the City of Washington, D.C. this twenty-fifth day of November, in the year two thousand and eight.

Plant Variety Protection Office Agricultural Marketing Ser

Colmonel T. School

CAPACITY OR TITLE

Patent Scientist

REPRODUCE LOCALLY. Include form number and date on all r	REPRODUCE LOCALLY. Include form number and date on all reproductions		Form Approved - OMB No. 0581-0055	
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE		The following statements are made in accc the Paperwork Reduction Act (PRA) of 19	The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.	
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE (Instructions and information collection burden statement on reverse)		Application is required in order to determine (7 U.S.C. 2421). Information is held confid	e if a plant variety protection certificate is to be issued lential until certificate is issued (7 U.S.C. 2426).	
1. NAME OF OWNER		TEMPORARY DESIGNATION OR EXPERIMENTAL NAME	3. VARIETY NAME	
Monsanto Technology L.	L.C. LLC	None	1090372	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and J.	ZIP Code, and Country)	5. TELEPHONE (include area code)	FOR OFFICIAL USE ONLY	
800 N. Lindbergh Blvd.	,	(815) 758-9281	PVPO NUMBER	
Creve Coeur, MO 63167	4	6. FAX (include area code)	1200600123	
U.S.A.	*	(815) 758-3117	FILING DATE	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM		9. DATE OF INCORPORATION	-	
ORGANIZATION (corporation, partnership, association, etc.)	· }	August 27, 1999	March 1,2006	
Corporation	Delaware			
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (F	irst person listed will receive all papers)	F FILING AND EXAMINATION FEES;	
	•	•	\$ 4382.00	
Timothy R. Kain	Mich	ael J. Roth	R DATE 3/1/0/2	
8350 Minnegan Road		I. Lindbergh Blvd.	E CERTIFICATION FEE:	
Waterman, IL 60556		e Coeur, MO 63167	II \$ 768.00	
U.S.A.	U.S.A		E DATE 10/29/08	
			D 2012 10/01/00	
11. TELEPHONE (Include area code)	12. FAX (Include area code)	13. E-MAIL	14. CROP KIND (Common Name)	
(815) 758-9281	(815) 758-3117	trkain@monsanto.com	Corn, Field	
15. GENUS AND SPECIES NAME OF CROP		16. FAMILY NAME (Botanical) 17. IS THE VARIETY A FIRST GENERATION HYBRID?		
Zea mays		Graminae	☐ YES X NO	
CHECK APPROPRIATE BOX FOR EACH ATTACHMENT S (Follow instructions on reverse)	UBMITTED	19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act)		
a. X Exhibit A. Origin and Breeding History of the Variety	<i>f</i>	YES (# "yes", answer items 20 and	₹	
b. X Exhibit B. Statement of Distinctness		20. DOES THE OWNER SPECIFY THAT SEED		
c. X Exhibit C. Objective Description of Variety		VARIETY BE LIMITED AS TO NUMBER OF CLASSES?		
d. Exhibit D. Additional Description of the Variety (Option)	ional)	IF YES, WHICH CLASSES? FOUN	DATION REGISTERED CERTIFIED	
e. X Exhibit E. Statement of the Basis of the Owner's Ov		21. DOES THE OWNER SPECIFY THAT SEED OF THIS YES NO		
f. X Voucher Sample (2,500 viable untreated seeds or, for verification that tissue culture will be deposited and		VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1.2,3, etc. FOR EACH CLASS.		
repository) g. X Filing and Examination Fee (\$3,652), made payable	to "Treasurer of the United	☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED		
States" (Mail to the Plant Variety Protection Office)	to treasurer or the United	(If additional explanation is necessary, please use the space indicated on the reverse.)		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATER FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANS	RIAL) OR A HYBRID PRODUCED FERRED, OR USED IN THE U.S.	23. IS THE VARIETY OR ANY COMPONENT O PROPERTY RIGHT (PLANT BREEDER'S R	F THE VARIETY PROTECTED BY INTELLECTUAL (IGHT OR PATENT)?	
OR OTHER COUNTRIES?	7	X _{YES}		
X YES IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE,	NO DISPOSITION TRANSPER OR	if yes, please give country, date of filing or issuance and assigned reference number. (Please use space indicated on reverse.)		
FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Plea		REFERENCE NUMBER. (Please use space	inaicatea on reverse.)	
24. The owners declare that a viable sample of basic seed of th	e variety has been furnished with applica	ation and will be replenished upon request in accord	dance with such regulations as may be applicable, or	
for a tuber propagated variety a tissue culture will be deposi The undersigned owner(s) is(are) the owner of this sexually	reproduced or tuber propagated plant va		, uniform, and stable as required in Section 42.	
and is entitled to protection under the provisions of Section	42 of the Plant Variety Protection Act.			
Owner(s) is(are) informed that false representation herein or	in jeopardize protection and result in per			
SIGNATURE OF OWNER WINDLY K. K		SIGNATURE OF OWNER		
NAME (Please print or type)		NAME (Please print or type)		
Timothy R. Kain	1			

CAPACITY OR TITLE

DATE

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively:
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease
- . 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97,103).
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Parent of a hybrid sold in the U.S. - April 2005

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

U.S. Patent Application No. 11/093,728 - filed March 30, 2005 (1090372)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filling a change of address. The fee for filling a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed.htm

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and

TDD). USDA is an equal opportunity provider and employer. ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000

EXHIBIT A (revised)

Origin and Breeding History 1090372

I090372 was selected for its YLD:MST (Yield-to-Moisture) ratio, improved root and stalk strength, improved grain quality, short plant stature, and general combining ability. Selections for ear uniformity and consistency were made under high plant populations which put significant selection pressure on the line to silk, shed pollen, and set seed under stressful conditions.

Summer 1996	The inbred line 87DIA4 (a proprietary DEKALB Genetics Corporation inbred) was crossed to the inbred line 90DJD28 (a proprietary DEKALB Genetics Corporation inbred) in the Owatonna, Minnesota nursery rows 96N: 5727 and 96N: 5730.
Winter 1996-97	The S0 seed was grown and self-pollinated in nursery row 97MX: 90.
Summer 1997	S1 seed was grown and self-pollinated in Owatonna, Minnesota nursery rows 97N:681-720. 41 S2 ears were kept.
Summer 1998	S2 ears were grown ear-to-row and self-pollinated. Three ears were selected in nursery row 98S2: 3677.
Winter 1998-1999	S3 ears were grown ear-to-row and self-pollinated. Three ears were selected in nursery row 99X: 1291.
Summer 1999	S4 ears were grown ear-to-row and self-pollinated. Three ears were selected in nursery row ADV1:9176. Line was named I090372.
Summer 2000	S5 ears were grown ear-to-row and self-pollinated. Two ears from nursery row YT2:40569 were selected.
Winter 2000-01	S6 ears were grown ear-to-row and self-pollinated. Five ears from nursery row LS1 H 000065 were selected.
Summer 2001	S7 ears were grown ear-to-row and self-pollinated. Three ears were selected from row 01ATI: 050967.
Winter 2001-02	S8 ears were grown ear-to-row and self-pollinated. 10 ears were selected from nursery row MP2PR 021163.
Summer 2002	S9 ears were grown ear-to-row and self-pollinated. Final selection was completed in nursery rows 30829 to 30857. This selection consisted of bulking S10 ears.

Statement of Stability and Uniformity

Corn inbred I090372 was coded in 1999 with final selection made in 2002. This inbred has been reproduced by self pollination for two generations and judged to be stable. Inbred I090372 is uniform for all traits observed.

Statement of Variants

1090372 shows no variants other than what would normally be expected due to environment or that would occur for almost any character during the course of repeated sexual reproduction.

EXHIBIT B

LLC

Statement of Distinctness

Monsanto Technology L.L.G. believes that I090372 is most similar to corn inbred 87DIA4, an inbred developed by DEKALB Genetics Corporation.

1090372 and 87DIA4 differ most significantly in the following traits:

Trait	1090372	87DIA4
Husk Opening*	Tight	Loose
	(8)	(2)

^{* -} based on a scale of 1-9; 1 = very loose, 9 = very tight

2002

Variety	Leaf Angle (degrees)	Shank Length (cm)
1090372	22.3 (Std Dev = 3.2, N= 10)	8.6 (Std Dev = 1.3, N= 10)
87DIA4	35.6 (Std Dev = 1.6, N= 10)	18.4 (Std Dev = 2.8, N= 10)
P_Val	0.000	0.000
Signif.	**	**

2003

Variety	Leaf Angle (degrees)	Shank Length (cm)
1090372	24.6	6.2
	(Std Dev = 3.6, N=10)	(Std Dev = 1.8, N= 10)
87DIA4	41.6	15.8
	Std Dev = 3.7 , N=10)	(Std Dev = 3.9, N= 10)
P_Val	0.000	0.000
Signif.	**	**

Significance levels are indicated as: + = 10%, * = 5%, ** = 1%

Corn variety I090372 has a tight ear husk, a narrower leaf angle and a shorter ear shank while comparative corn variety 87DIA4 has a loose ear husk, a wider leaf angle and a longer ear shank.

EXHIBIT B (revised)

Description of Experimental Design

The corn varieties I090372, 87DIA4 and CM105 were grown at the Waterman, IL observation nursery in years 2002-2003. The varieties were planted in 2 row plots with 15 plants per row in each of the three years. Trait data were collected on 10 random representative plants for most traits from each 2 row plot. Data on qualitative traits are usually collected on 10 plants from each 2 row plot. For Exhibit C all data were pooled and reported as means across the years for subject variety and the standard variety with standard deviation. The varieties are randomly planted in a 4.5 acre observation nursery which is located within a larger 18 acre field. Besides the observation nursery, this field consists of a research seed increase nursery and an IP seed inventory nursery. The location of each of these individual nurseries is rotated each year to a different location within the 18 acre field. Therefore subject inbreds are not planted adjacent to comparative or standard varieties and may be located in different areas of the larger field each year, therefore being influenced by spacial differences within the field. Growing conditions within the field are not uniform as there are some slight topographical variations such as lower areas which may accumulate and retain water or higher areas which are usually drier. The field is tiled and therefore a variety maybe planted close to a tile line while a comparative variety maybe planted further away and in a low spot within the field. Temporal varieties can exist as weather conditions from year to year can vary as well as planting dates can vary from year to year based on weather conditions. Weather conditions each year can vary the maturity rate of the varieties due to either favorable or unfavorable growing conditions.

Trait variability is not observed for each variety within its own test plot-plants are usually uniform and data are collected on the "most" representative plants- variability occurs due to spacial location of the test plot for that variety from year to year and to the temporal variation of weather conditions from year to year during the 2-3 years data are collected.

Waterman Research Station Weather Data 2002-2003

Date	Average	Ave. Monthly	Ave. Monthly	Ave. Monthly	Ave. Monthly
	Precip.	Temp – Max.	Temp-Min	Rel. Humid	Rel. Humid
	(mm)	(F°)	(F°)	Max (%)	Min (%)
June 2002	5.3	81.3	60.4	90.7	47.7
July 2002	1.5	87.0	64.9	93.2	48.3
August 2002	5.7	83.1	61.0	96.0	51.8
Sept. 2002	1.5	79.4	52.6	95.0	42.7
June 2003	2.0	75.7	55.7	_	-
July 2003	6.4	82.2	62.2		-
August 2003	2.6	83.5	63.5	-	-
Sept 2003	2.6	72.9	52.9	-	-

United States Department of Agriculture, Agricultural Marketing Service Science and Technology, Plant Variety Protection Office National Agricultural Library Building, Room 400 Beltsville, MD 20705-2351

OBJECTIVE DESCRIPTION OF VARIETY CORN (Zea mays L.)

	CORN (Zea ma	ys L.)			
Name of Applicant(s) Variety Seed Source			e Variety Name or Temporary Designation		
Monsanto Technology L-L-C- LLC				1090372	
Address (Street & No., or R.F.D. No., City, State, Zip Code and Co	untry)		FOR O	FFICIAL USE	PVPO Number
8350 Minnegan Road, Waterman, IL 60556		200600	123		
Place the appropriate number that describes the varietal characters necessary. Completeness should be striven for to establish an add	s typical of this inbred variety equate variety description.	n the spaces below. F	Right justify whole n	umbers by adding lea	iding zeroes if
COLOR CHOICES (Use in conjunction with Munsell color code to of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction with Munsell color code to one of the conjunction of th	describe all color choices; des 11≃Pink 12=Light Red 13=Cherry Red 14=Red 15=Red & White	16≕Pal 17=Pur 18≕Col 19=Wh	e Purple ple orless	21=Buff 22=Tan 23=Brown 24=Bronze 25=Variegated 26=Other (De	
STANDARD INBRED CHOICES (Use the most similar (in background and maturity) of these to make comparisons based on grow-out trial data): Yellow Dent Families: Yellow Dent (Unrelated): Sweet Corn: Family B14 Members C0109, ND246, C13, lowa5125, P39, 2132 B37 B37, B76, H84 W117, W153R Popcorn: B73 N192, A679, B73, NC268 W182BN SG1533, 4722, HP301, HP7211 C103 Mo17, Va102, Va35, A682 White Dent: Pipecorn: WF9 W64A, A554, A654, Pa91 CI66, H105, Ky228 Pipecorn: M015W, M016W, M024W					1, HP7211
TYPE: (describe intermediate types in Comments section)			Standard Inbred	Name CM105	
2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamenta	7=Pipecorn		2 Type		
2. REGION WHERE DEVELOPED IN THE U.S.A.;			Standard Seed S	Source	
2 1=Northwest 2=North central 3=Northeast 4=Southe	ast 5=South central 6=So	uthwest 7=Other	2 Region		
MATURITY (In Region Best Adaptability; show Heat Unit formula DAYS HEAT UNITS 79 1 4 7 3, 0 From emergence to 50% of plants.)			DAYS 0 6 3	HEAT UNITS 1 4 0 0.5	
79 1 4 7 3. 0 From emergence to 50% of plat	nts in pollen		059	1 2 9 2.5	
From 10% to 90% pollen shed					
From 50% silk to optimum edib	le quality				
From 50% silk to harvest at 25	% moisture				
4. PLANT:	Standard Deviation	Sample Size	Mean	Standard Deviatio	n Sample Size
1 9 7. 8 cm Plant Height (to tassel tip)	23.1	30	1 4 4.1	6.9	20
0 7 0. 9 cm Ear Height (to base of top ear node)	8.3	30	0 4 1.8	5.3	20
1 5. 5 cm Length of Top Ear Internode	1.3	30	0 1 0.9	1.9	20
Average Number of Tillers	****		_		
1.0 Average Number of Ears per Stalk	0.0	30	0 0 1.0	0.0	20
2 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=	-Moderate 4=Dark		2		
Application Variety Data	Page 1		Standard Inbred	Data	
			l		

Application Varie	chy Doto	······	·····	T	20000	
	ety Data	Page 2		Standard Inbred Data		
5. LEAF:		Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
0 8.5	cm Width of Ear Node Leaf	0.7	30	0 0 7.2	8.0	20
6 5. 8	cm Length of Ear Node Leaf	3.9	30	0606	3.2	20
6.4	Number of leaves above top ear	0.5	30	5. 8	0.6	20
23.0	degrees Leaf Angle (measure from 2nd leaf above ear at anthesis	3.7 s to stalk above leaf)	30	4 7.8	7.9	20
03	Leaf Color (Munsell code 5 GY 3/4)	•		0 2 (Munsel	l code 5 GY 4/8)	
5	Leaf Sheath Pubescence (Rate on scale from	n 1=none to 9=like peach fuzz)		1		
6	Marginal Waves (Rate on scale from 1=none	to 9=many)		6		
5	Longitudinal Creases (Rate on scale from 1=	none to 9=many)		5		
6. TASSEL:		Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
0 6. 3	Number of Primary Lateral Branches	1.9	30	5. 4	1.4	20
2 5. 0	Branch Angle from Central Spike	7.1	30	3 2.0	. 6.3	20
3 3. 7	cm Tassel Length (from top leaf collar to tassel tip)	3.6	30	3 3.2	3.9	20
4.6	Pollen Shed (Rate on scale from 0=male sterili	e to 9=heavy shed)	•	4. 3		
11	Anther Color (Munsell code 5 R 7/6)			0 7 (Munsell code 2.5 Y 8/10)		
16	1 6 Glume Color (Munsell code 5 RP 5/6)			1 2 (Munsell code 2.5 R 5/8)		
1	Bar Glumes (Glume Bands): 1=Absent 2=Pres	ent		1		
7a. EAR (Unhus	ked Data):					· · · · · · · · · · · · · · · · · · ·
11 Silk	Color (3 days after emergence) (Munsell code	5 R 6/6)		0 7 (Munsell	code 2.5 Y 8/10)	
0.2 Fre	sh Husk Color (25 days after 50% silking) (Mun	sell code 5 GY 4/8)		0 2 (Munsell	code 5 GY 4/8)	
21 Dry	Husk Color (65 days after 50% Silking) (Munse	Il code 2.5 Y 8/4)		2 1 (Munsell	code 2.5 Y 8/4)	
1 Posi	ition of Ear at Dry Husk Stage: 1=Upright 2=Ho	rizontal 3=Pendent		1		
8 Hus	k Tightness (Rate on scale from 1=very loose to	9=very tight)		9		
2 Hus tip) 4=Very	k Extension (at harvest): 1=Short (ears exposed Long (>10 cm)	d) 2=Medium (<8 cm) 3=Long (8	-10 cm beyond ear	2		
7b. EAR (Husked	i Ear Data):	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
1 5. 3	cm Ear Length	1.7	30	1 4.4	1.8	20
3 4. 0	mm Ear Diameter at mid-point	1.3	30	3 7.8	1.5	20
9 9. 7	gm Ear Weight	9.2	30	8 7. 5	7.2	20
1 3 .6	Number of Kernel Rows	1.1	30	1 3.6	0.8	20
2	Kernel Rows: 1=Indistinct 2=Distinct			2		
1	Row Alignment: 1=Straight 2=Slightly Curved 3	=Spiral	,	1		
07.5	cm Shank Length	1.5	30	0 5.8	1.4	15
. 2	Ear Taper: 1=Slight 2=Average 3=Extreme			2		
Application Variety	/ Data	- MINI 1.		Standard Inbre	ed Data	
Note: Use chart or	n first page to choose color codes for color traits	3.		•		

			,	20000	
Application Variety Data	Page 3		Standard Inbro	ed Data	····
8. KERNEL (Dried):	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
0 9 .2 mm Kernel Length	1.1	30	0 9.0	1.2	15
0 6 .6 mm Kernel Width	0.5	30	0 8.3	0.7	15
3 .8 mm Kernel Thickness	0.4	30	0 5.5	1.4	15
2 6. 4 % Round Kernels (Shape Grade)	4.9	500g	4 2.1	3.1	500 g
Aleurone Color Pattern: 1=Homozygous 2=Segrega	ating (describe)		1		
1 9 Aleurone Color (Munsell code Lighter than 5 Y 9/1)			1 9 (Munsell o	1 9 (Munsell code Lighter than 2.5 Y 9/2)	
0 7 Hard Endosperm Color (Munsell code 2.5 Y 8/10)			0 7 (Munsell	code 2.5 Y 8/10)	
3 Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (s 5=Waxy Starch 6=High Protein 7=High Lysine 10=Other	sh2) 3=Normal Starch 8=Super Sweet (se)	4=High Amylose Starch 9=High Oil	03		
2 7.9 gm Weight per 100 Kernels (unsized sample)	3.1	1200 seeds	2 2.8	3. 6	1000 seeds
9. COB:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
2 2 .6 mm Cob Diameter at mid-point	1.7	30	2 5.9	1.5	15
1 4 Cob Color (Munsell code 5 R 3/8)			1 4 (Munsell d	code 5 R 3/8)	
10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most Race or Strain Options blank if polygenic): A. Leaf Blights, Wilts, and Local Infection Diseases 6 Anthracnose Leaf Blight (Colletotrichum graminicola) 5 Common Rust (Puccinia sorghi) Common Smut (Ustilago maydis) 6 Eyespot (Kabatiella zeae) 7 Goss's Wilt (Clavibacter michiganense spp. nebraskense) 4 Gray Leaf Spot (Cercospora zeae-maydis) 6 Helminthosporium Leaf Spot (Bipolaris zeicola) 7 Northern Leaf Blight (Exserohilum turcicum)	st resistant); leave blank i Race 2 Race 1 Race O	if not tested; leave	3 Northern L 6 Southern L Southern F 4 Stewart's V	Rust Smut It Spot Sporium Leaf Spoteaf Blight Rust Rust Viit Leify)	Race 1 Race O
Head Smut (Sphacelotheca reiliana) Maize Chlorotic Dwarf Virus (MCDV) Maize Chlorotic Mottle Virus (MCMV) Maize Dwarf Mosaic Virus (MDMV) Sorghum Downy Mildew of Corn (Peronosclerospora sorghi) Other (Specify) C. Stalk Rots Anthracnose Stalk Rot (Colletotrichum graminicola) Diplodia Stalk Rot (Stenocarpella maydis) Fusarium Stalk Rot (Fusarium moniliforme) Gibberella Stalk Rot (Gibberella zeae) Other (Specify) D. Ear and Kernel Rots Aspergillus Ear and Kernel Rot (Aspergillus flavus) Diplodia Ear Rot (Stenocarpella maydis) Fusarium Ear and Kernel Rot (Fusarium moniliforme) Gibberella Ear Rot (Gibberella zeae) Other (Specify) Other (Specify)	Strain		Head Smu Maize Chlc Maize Chlc Maize Chlc Maize Dwa Sorghum E Other (Spe Anthracnos Diplodia St Fusarium S Gibberella Other (Spe Aspergillus Diplodia Ea Fusarium E Gibberella Other (Spe	torotic Dwarf Virus pritic Mottle Virus pritic	
			Standard Inbred	1 Data	
Note: Use chart on first page to choose color codes for color traits.					

Application Variety Data Page 4	Standard Inbred Data
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested): Standard Deviation Sample Size	Standard Deviation Sample Size
Banks Grass Mite (Oligonychus pratensis)	Banks Grass Mite
Corn Earworm (Helicoverpa zea) Leaf-Feeding Silk Feeding : mg larval wt Ear Damage	Corn Earworm Leaf Feeding Ear Damage
Corn Leaf Aphid (Rhopalosiphum maidis) Corn Sap Beetle (Carpophilus dimidiatus)	Corn Leaf Aphid Corn Sap Beetle
European Corn Borer (Ostrinia nubilalis) 1st Generation (Typically Whorl Leaf Feeding) 2nd Generation (Typically Leaf Sheath-Collar Feeding) Stalk Tunneling :	European Corn Borer 1st Generation 2nd Generation
Fall Armyworm (Spodoptera frugiperda) Leaf-Feeding Silk-Feeding: mg larval wt.	Fall Armyworm Leaf Feeding
Maize Weevil (Sitophilus zeamaize) Northern Rootworm (Diabrotica barberi) Southern Rootworm (Diabrotica undecimpunctata)	Maize Weevil Northern Rootworm Southern Rootworm
Southwestern Corn Borer (<i>Diatraea grandiosella</i>) Leaf Feeding Stalk Tunneling: cm tunneled/plant	Southwestern Corn Borer Leaf Feeding
Two-spotted Spider Mite (Tetranychus urticae) Western Rootworm (Diabrotica virgifera virgifera) Other (Specify)	Two-spotted Spider Mite Western Rootworm Other (Specify)
12. AGRONOMIC TRAITS:	
3 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)	1 Stay Green
0 0. 1 % Dropped Ears (at 65 days after anthesis)	0 0 .0 % Dropped ears
0 0 .0 % Pre-anthesis Brittle Snapping	0 0 .0 % Pre-anthesis Brittle Snapping
0 0. 0 % Pre-anthesis Root Lodging	0 0 .0 % Pre-anthesis Root Lodging
0 0. 0 % Post-anthesis Root Lodging (at 65 days after anthesis)	0 0 .0 % Post-anthesis Root Lodging
Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)	Yield
13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)	
1 Isozymes 0 RFLP's 0 RAPD'sOther (Specify)	
REFERENCES:	
Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University. Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The Analysis Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, C.T. Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York. McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp. Munsell Color Chart for Plant Tissues. Macbeth. P.O. Box 230. Newburgh, N.Y. 12551-0230 The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wl. Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp. Sprague, G.F., and J.W. Dudley (Editors). 1988. Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. A Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959. U.S. Department of Agriculture. 1936, 1937. Yearbook.	American Phytopathological Society, St. Paul, MN.
COMMENTS (e.g. state how heat units were calculated, standard inbred seed source, and/or where data was collected. C	ontinue in Exhibit D):
Heat Unit Calculation: GDU = Daily Max Temp ($\leq 86^{\circ}$ F) + Daily Min Temp ($\geq 50^{\circ}$ F) - 2	- 50°F
Supplemental data obtained from 2005 seed inventory and production parent test.	

REPRODUCE LOCALLY. Include form number and edition date on a	all reproductions.	FORM APPROVED - OMB No. 0581-005
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE	Application is required in order to de certificate is to be issued (7 U.S.C. 2	etermine if a plant variety protection
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	confidential until the certificate is iss	ued (7 U.S.C. 2426).
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Monsanto Technology L.L.C. LLC	OR EXPERIMENTAL NUMBER	1090372
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
800 N. Lindbergh Blvd.	(815) 758-9281	(815) 758-3117
Creve Couer, MO 63167	7. PVPO NUMBER	
U.S.A.		200600123
8. Does the applicant own all rights to the variety? Mark an "X" in the	ne appropriate block. If no, please expla	ain. X YES NO
		·
9. Is the applicant (individual or company) a U.S. national or a U.S.	based company? If no, give name of c	ountry. X YES NO
10. Is the applicant the original owner?	NO If no, please answer one	of the following:
a. If the original rights to variety were owned by individual(s), is YES	(are) the original owner(s) a U.S. Nation NO If no, give name of count	
b. If the original rights to variety were owned by a company(ies),	is (are) the original owner(s) a U.S. bas	sed company?
YES	NO If no, give name of count	
	_	•
11. Additional explanation on ownership (Trace ownership from original contents)	inal broades to assess as well by the	
11. Additional explanation on ownership (Trace ownership from ong.	nar breeder to current owner. Use the re	everse for extra space if needed):
	•	
Corn Variety I090372 was originated and Technology L.E.S. By agreement between rights to any invention, discovery or development.	en Monsanto Technology L.L.C	and the breeder, all
No rights to such invention, discovery or	development are retained by th	e breeder.
		· ·
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not licens	sees) who meet the following criteria:	
If the rights to the variety are owned by the original breeder, that p national of a country which affords similar protection to nationals o	erson must be a U.S. national, national of the U.S. for the same genus and speci	of a UPOV member country, or es.
If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a genus and species.	yed the original breeder(s), the company country which affords similar protection	y must be U.S. based, owned by to nationals of the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the	original owner and the applicant must m	neet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.

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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705

EXHIBIT F

	DECLARATION REGARDING DEPOSIT	
NAME OF OWNER (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION
Timothy R. Kain	8350 Minnegan Road	
	Waterman, IL 60556 U.S.A.	VARIETY NAME
	U.D.A.	1090372
NAME OF OWNER REPRESENTATIVE (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	FOR OFFICIAL DISEONLY
Monsanto Technology LLC	8350 Minnegan Road	当18-05 (1913年) [18-15] [19-15] [19-15] [19-15] [19-15] [19-15] [19-15] [19-15] [19-15] [19-15] [19-15] [19-15]
	Waterman, IL 60556	PVPO NUMBER
	U.S.A.	200600123

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

28 FEB 2008